

## Koch, Kristine

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**From:** Gail Fricano <GFricano@indecon.com>  
**Sent:** Wednesday, December 10, 2014 12:00 PM  
**To:** Scott Coffey; Koch, Kristine; Allen, Elizabeth  
**Subject:** Fwd: Section 2 and appendix response to comments

5 tribe response to EPA's responses on App A1

Sent from my iPhone

Begin forwarded message:

**From:** Bruce Jacobs <[bjacobs@hydroanalysisinc.com](mailto:bjacobs@hydroanalysisinc.com)>  
**Date:** December 10, 2014 at 8:55:58 AM PST  
**To:** 'Gail Fricano' <[GFricano@indecon.com](mailto:GFricano@indecon.com)>  
**Subject:** FW: Section 2 and appendix response to comments  
**Reply-To:** <[bjacobs@hydroanalysisinc.com](mailto:bjacobs@hydroanalysisinc.com)>

One more point

B1-24 - If the referenced equation is supposed to be a harmonic mean then it's actually not correct. There should be a "2" in the numerator.

Bruce Jacobs

HydroAnalysis, Inc.  
33 Clark Road, No. 1  
Brookline, MA 02445

617-879-0253  
[bjacobs@hydroanalysisinc.com](mailto:bjacobs@hydroanalysisinc.com)

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**From:** Bruce Jacobs [<mailto:bjacobs@hydroanalysisinc.com>]  
**Sent:** Wednesday, December 10, 2014 11:50 AM  
**To:** 'Gail Fricano'  
**Subject:** RE: Section 2 and appendix response to comments

B1-3 -- This remains confusing to me. Consider for example this sentence from section 1.1.1: "Risk-based tissue PRGs associated with consumption of fish and shellfish were calculated for resident fish using the following equations, adapted from Section 3.5.5 of the Final BHHRA (Kennedy/Jenks, 2013):" How is this to be interpreted? It says that risk-based PRGs are calculated for fish and shellfish, but then goes on to say that the calculations were carried out for "resident fish" and provides no analogous discussion for shellfish.

B1-4 – I disagree about the merits of numbering equations. While the equations themselves are mostly independent of each other, any text description of particular equations or references from spreadsheets or report text would be clarified by the inclusion of equation numbers. The level of effort should not be significant.

B1-8 – I continue to feel that the original text is misleading and not entirely clear. The original text says that "combined child and adult exposure was evaluate consistent with the following equations." The referenced equations are calculations of PRG. Perhaps there is some misunderstanding on my part as to

how they are using the term “exposure”. To me, “exposure” is a vector quantity defined by duration, frequency, substance, and concentration. They seem to be referring to PRG as a proxy for “exposure” in this particular text, but I’m not sure.

B1-13 – This comment has not been addressed: “Is the CR same as CR<sub>fish</sub> in previous equation? Please modify notation as necessary to make consistent.” The original comments also suggested switching the exposure duration units from “days” to “years”. Has this been done?

B1-19 – The response says that the derivation of IFISM is presented in the last equation. Perhaps the text could be modified so that it’s clear that this one term is “calculated” with a reference to the appropriate equation number.

B1-24 – I disagree that this equation is a “cumulative weighted exposure”. It appears that it’s a harmonic mean of the values. Also, there seems to be an error in that “sediment” and “ingestion” should be a part of the subscript rather than as presented. I also think that the use of “CONC” in this equation is incorrect since the source values are the previously calculated PRG values. Here’s a good place where equation numbers would help in clarifying the text.

B1-25 - If as the response reports, “the appendix is the reference”, then there needs to be additional text describing the source of the data. For starters they should describe how the values were measured, by whom, on what date, and the number and location of measurements.

B1-31 – I still think there is an error in the original text. The original sentence appears to be two sentences that have been inadvertently or otherwise connected. “Sediment-tissue BSAFs for hexachlorobenzene were developed for large home-range species, no relationship was established for smallmouth bass (Windward, 2009).”

B1-33. The response indicates that lipid content has no associated units, however the text of the report indicates the units are in “percent” That would be a fraction multiplied by 100. The OC content appears to be a fraction. Dividing a fraction quantity by a quantity expressed as percent would represent an incorrect mixture of units.

B-34 – Omitting table numbers is not a good practice. The text does reference Winward (2009), however the text does not explicitly say that the measured values are those listed in this table.

B-36 – If the food web model is described in a separate appendix, then there should be some reference to that model in this discussion. A sentence or two providing a high-level description of the food web model would go a long way to helping guide the user through the remainder of this section.

B1-37 – I don’t believe the original sentence is clear. In particular, what are the refinements that are referred to in the first part of this sentence. Does the remainder of the sentence described these refinements or is that the general description of the food-web model.

B1-38 – The reference to “concentrations” in this sentence refers I believe to calculated values based on particular risk quantities. They are not it’s clear measured concentration values. They are I believe what are previously described as PRG values in the equations in the earlier part of the appendix.

B1-39 – The problem with the original sentence is that it says “the four species”, as if they had been described previously in the text. Perhaps if you drop the “the” that it would read better.

B1-40 / B1-44 – What are the units for ABS? Is it unitless (in other words a fraction) or percent (a fraction multiplied by 100).

Bruce Jacobs

HydroAnalysis, Inc.  
33 Clark Road, No. 1  
Brookline, MA 02445

617-879-0253  
[bjacobs@hydroanalysisinc.com](mailto:bjacobs@hydroanalysisinc.com)